



# Urban Pathways

## NATIONAL LOW CARBON URBAN ACTION PLAN

INDIA



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**UN HABITAT**  
FOR A BETTER URBAN FUTURE

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## Project concept

## Project aims

**The Urban Pathways project helps delivering** on the Paris Agreement and the NDCs in the context of the New Urban Agenda and the Sustainable Development Goals. It has established a facility in close cooperation with other organisations and networks active in this area to support national and local governments to develop action plans and concrete implementation measures to boost low-carbon urban development. This builds on UN-Habitat's role as "a focal point on sustainable urbanisation and human settlements including in the implementation and follow-up and review of the New Urban Agenda". The project develops national action plans and local implementation concepts in key emerging economies with a high mitigation potential. The local implementation concepts are being developed into bankable projects, focusing on the access to urban basic services to create a direct link between climate change mitigation and sustainable development goals.

**The project follows a structured approach to boost** Low Carbon Plans for urban mobility, energy and waste management services that deliver on the Paris Agreement and the New Urban Agenda. The project works on concrete steps towards a maximum impact with regards to the contribution of urban basic services (mobility, energy and waste management) in cities to global climate change mitigation efforts and sustainable and inclusive urban development. This project makes an active contribution to achieve global climate change targets to a 1.5°C stabilisation pathway by unlocking the global emission reduction potential of urban energy, transport and resource sectors. The project will contribute to a direct emission reduction in the pilot and outreach countries, which will trigger a longer term emission reduction with the aim to replicate this regionally and globally to make a substantial contribution to the overall emission reduction potential.

**This project implements integrated urban services** solutions as proposed in the New Urban Agenda providing access to jobs and public services in urban areas, contributing to equality and social coherence and deliver on the Paris Agreement and the Sustainable Development Goals. This is the first dedicated implementation action oriented project, led by UN-Habitat to deliver on inclusive, low-carbon urban services. Securing sustainability and multiplier effect, the project aims to leverage domestic and international funding for the implementation projects that will follow from this initiative



# Urban Pathways



## Urban Pathways Project and Replication Cities

# INTRODUCTION

The Urban Pathways project embarked on a four-year programme which started in October 2017. It helped deliver on the Paris Agreement and the NDCs in the context of the New Urban Agenda and the Sustainable Development Goals. Its aim is to make a direct contribution to sustainable urban development by focusing on implementation projects in the areas of mobility, energy, and resource management.

Initially, the Urban Pathways project focused on India, Brazil, Kenya and VietNam as four pilot countries for the implementation of the programme's identified work agenda. As of now (October 2021) it has stretched its activities far beyond those countries, being active in 10 pilot cities and replicating activities in more than 15 cities (see report "Living Labs" ...).

The Urban Pathways project had developed and helped to implement a variety of pilot projects for each of the partner cities. During this intense period of cooperation and interaction the team has gained understanding of some of the obstacles and gaps of the regulative framework and / or (lack of) capacities of the partner cities and countries. This report summarizes the lessons learnt, but with a focus on the national level and how the national authorities can help to support low-carbon action in cities.

The Urban Pathways approach starts with rather small-scale, bottom-up activities, believing in the potential of replicating and upscaling such pilot projects. Our experiences highlighted the fact that - while material sites and infrastructure of course play an important role - a mindset change is a pivotal precondition for transitioning to sustainable urban development. Thus, small, low-cost projects, such as the EcoZone or Tactical Urbanism, focusing on neighbourhoods as the geographical scale can play an important role in speeding up low-carbon urban action. Also, at the neighbourhood level an intersectoral approach is easier applicable, addressing simultaneously different sectors, such as mobility and waste, through a series of activities that include tactical urbanism, awareness-raising, community participation and impact assessment. Therefore, the Urban Pathways project recommendations focus on how the national level governments can help to initiate, strengthen and spread such action. Other challenges that were observed during the cooperation with the national and local governments will be mentioned as well.

# GLOBAL PERSPECTIVE ON NATIONAL LOW-CARBON URBAN ACTION PLANS

After an introduction to the trends, drivers and the policy environment of each Urban Pathways partner country (1), we summarize the ongoing initiatives and pilot projects that have already been or are being implemented within the project (2), followed by a section on policy issues that need to be addressed if synergies should be used and those low-carbon urban actions be upscaled and replicated (3).

## India

### Trends, Drivers & Policy Environment

With the global share of India's GHG emissions being 4.1% (the world's third largest GHG emitter after the US and China), India faces a major challenge. Though India's emission intensity of 0.36 kg CO<sub>2</sub>/US\$ is 60% less compared to developed countries, India is part of the top 10 global emitters, who contribute over 72% of global GHG emissions.

The GHG emissions from the energy sector contribute the highest in India (2,199 MtCO<sub>2</sub>e, per capita 1.7 tCO<sub>2</sub>e), followed by agriculture (627 MtCO<sub>2</sub>e, per capita 0.48 tCO<sub>2</sub>e), industrial processes (193 MtCO<sub>2</sub>e, per capita 0.15 tCO<sub>2</sub>e), land-use change and forestry (123 MtCO<sub>2</sub>e, per capita 0.09 tCO<sub>2</sub>e) and waste (61 MtCO<sub>2</sub>e, per capita 0.05 tCO<sub>2</sub>e). Within the energy sub-sector, GHG emissions from electricity are the highest (due to dependency on coal) (1,083 MtCO<sub>2</sub>, per capita 0.84 tCO<sub>2</sub>), followed by manufacturing/construction (533 MtCO<sub>2</sub>, per capita 0.41 tCO<sub>2</sub>) and transportation (232 MtCO<sub>2</sub>, per capita 0.18 tCO<sub>2</sub>) (WRI-CAIT, 2015). Urbanization and economic development are leading to a rapid increase in energy demand in urban areas in India further increasing GHG emissions. Urbanization is riddled with innumerable challenges of which provision of adequate housing and basic infrastructure to all are most prominent. The informal settlements or areas with multi-deprivations are often disconnected from the urban infrastructure networks of which public transportation options and mobility is most prominent. Most cities in India are bereft of robust pedestrian or cycling networks, overlooking the needs of a large part of the population that walks or cycles to meet its daily needs. Compounded by a lack of disaster preparedness measures in place, most Indian

cities are not equipped to deal with commonly occurring extreme weather events, such as drought and flooding. This impact is more severe for the economically weaker sections of society who are more exposed to the repercussions of seasonal variabilities and increasingly extreme and unpredictable climate events.

Air pollution is a major issue in India. The air pollution intensity across Indian cities is high and its rate is alarming. Various reports suggest that India is one of the most polluted countries in the world (Aman, 2017). The most comprehensive air pollution estimates (in 2015) indicate that 99.9% of the Indian population live in areas where the World Health Organization (WHO) Air Quality Guideline of  $10\mu\text{g}/\text{m}^3$  for PM<sub>2.5</sub> is exceeded (GBD MAPS Working Group, 2018). Although the air pollution levels experienced by the Indian population can vary substantially depending on where they live, these levels are unusually high compared with WHO guidelines and Indian air quality standards. Vehicles are the most consistent and dominant source of pollution throughout the year in India (Narain & Roychowdhury, 2016). With a weak public transport system in most cities, there has been a boom in the share of private motor vehicles on Indian roads which exacerbates the air pollution woes of urban India. In 2016, amongst 10 cities globally with the worst air quality, four of them were in India highlighting the severity of this problem with far reaching economic, social and health impacts.

With rapid urbanization, growing economic activities and changing lifestyles, India is facing a huge waste management challenge for both municipal waste and industrial waste, mainly in urban local bodies. As per a study by the Central Pollution Control Board (CPCB) (2012–13), municipal areas in the country generate around 170,000 metric tonnes per day (TPD) of municipal solid waste (annual generation of 62 million tonnes of waste) (ASSOCHAM, 2017). The volume of waste in Indian cities is expected to increase by 5% per year with increase in population and changing lifestyles (Planning Commission, 2014). Only 70 percent of urban solid waste is collected and this share decreases considerably outside of major urban centres. About 20% of the collected wastes are treated, and the remaining 50% are disposed of in open landfills, without proper treatment or containment. It is anticipated that by 2021, 2031, and 2050, waste arising will be around 101 Million Metric Tonnes (MMT), 164 MMT, and 436 MMT per year, respectively.[2] Therefore, ineffective solid waste management needs urgent attention, especially in urban centres with focus on establishing resource efficient systems in cities. On the wastewater front, a meagre 30 percent is treated and only 65 percent of the urban

population has independent piped water connections. Such statistics highlight the scaling urban issue of groundwater contamination, rampant river and urban water body pollution.

The government of the Republic of India is based on a constitution adopted in 1950. It has features similar to the government of the United States and to the British parliamentary system. India consists of a union of 28 states, Delhi (the National Capital Territory), and six federally administered territories. It has both a national (or federal) government as well as state governments.

The national legislature, or parliament (Sansad), is made up of two houses. The People's Assembly (Lok Sabha) is elected directly by the people, except for a few members who may be appointed by the president. Its term is normally five years. Members of the Council of States (Rajya Sabha) are elected for a term of six years by the state legislatures. A few members are also appointed by the president. The president is elected (together with a vice president) for a term of five years by an electoral college made up of members of the national and state legislatures. The president, for the most part, serves as a ceremonial head of the union and on the advice of council of ministers appoints a Governor in each state for a term of five years. The Governor also holds a ceremonial position as head of the state executive. Real executive power at the union level rests with the Council of Ministers, headed by the prime minister while at the state level rests with the Chief Minister who also heads the council of ministers. There are also certain states with a bicameral legislature following the pattern of two houses at the union level. The prime minister is usually the leader of the political party or coalition that has the greatest number of seats in parliament. A similar pattern is followed at the state level in the houses of legislature.

In the Indian Federal system, the powers and functions of the two levels of governments that is (state and union) are outlined by the Schedule-VII of the Indian constitution in the form of three lists. List-I lists the powers and functions of the federal (central) government while list-2 outlines it for the state governments. There is a list-III which is aptly called as the concurrent list which outlines areas where both federal and state governments can take action. The lists also enforce legislative competence of different levels of government. The Federal government

cannot make laws for any items in list-II and vice-versa. Therefore, in principle the federal government may seem stronger in terms of legislative space, it still lacks power to legislate or frame mandatory policies for anything listed in list-II. The 73<sup>rd</sup> and 74<sup>th</sup> amendment of the constitution also created a third tier of government as village (panchayats) and municipalities. Although these amendments are not mandatory to be followed by the state governments and are more of a blueprint on what needs to be done. State governments have almost absolute power over city governments as per entry five in List II namely “Local government, that is to say, the constitution and powers of municipal corporations, improvement trusts, district boards, mining settlement authorities and other local authorities for the purpose of local self-government or village administration”. There are many other entries in list II which are important for low carbon urban action, but union government has no power to legislate or make mandatory policies for them. Certain entries of such nature are agriculture, water resources management, and land.

Therefore, from a policy perspective it is possible to commit for the union government, goals to reduce emissions at an international front, it is not possible for them to mandate state governments to follow them. Although, the constitution of India guarantees state governments absolute legislative space for the entries in list II, it also provides the union government with larger sources of revenue and ensures that union government is always financially more powerful than the state governments. Taking the benefit of this strong financial position, the union government in India through its various ministries undertakes a variety of development programmes which are sometimes referred to as “reform linked missions/programmes” where funds over and above the mandated financial devolution by the Central Finance Commissions (CFCs) are provided to city governments through state governments only if those follow suggested reforms. Several ministries like Ministry of Housing and Urban Affairs (MoHUA) use this carrot on a stick approach to launch programmes/missions which only provide financial assistance if state governments provide assurance to complete the reforms in tune with the national agendas. Such programmes/missions have been a great tool in the union government’s toolkit to encourage state governments to follow national development agendas and priorities.

In the urban development space, Jawaharlal Nehru National Urban Renewal Mission (JNNURM); launched in the year 2005; was one of its kind reform-linked programme to improve urban infrastructure in Indian cities through financial support from the union government. Almost all such programmes and missions by MoHUA in the recent years have followed a similar pattern whether it is programmes like Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and the most coveted Smart Cities Mission (SCM), where union government has bypassed the legislative hurdle posed by the constitution by giving powers to Special Purpose Vehicles (SPVs) which are registered as companies under the Companies Act 2013, with joint shareholding by union, state, and city governments. These companies may have direct intervention of the union government which is not possible in the case of local governments.

India targets to reduce the emissions intensity of its GDP by 33 to 35 % by 2030 compared to 2005 levels, as stated in the country's INDC. The target will be reached through emphasis on renewable energy, promotion of clean energy, enhancing energy efficiency, climate resilient urban centres, and sustainable green transportation networks. The national government of India through relevant ministries such as Ministry of Housing and Urban Affairs (MoHUA) and Ministry of Environment, Forest and Climate Change (MoEFCC), is taking a major responsibility to formulate plans and actions to mitigate and adapt to climate change in India. Some of the key policies addressing climate change in India are: National Action Plan on Climate Change (NAPCC), State Action Plan on Climate Change (SAPCC), Smart Cities Mission and National Urban Transport Policy (NUTP) 2014. The Central Pollution Control Board (CPCB) is a statutory organisation that provides technical service to MoEFCC and takes actions to improve the quality of air and to prevent, control or abate air pollution in the country (CPCB, 2018). The Environment Pollution Prevention & Control Authority (EPCA), a supreme court-appointed environment watchdog for the National Capital Region, carries out activities to protect and improve the quality of the environment and prevent, control, and abate environmental pollution.. State and local governments in India create their own initiatives to minimise air pollution.

In terms of waste management, MoEFCC has published several rules, such as the Plastic Waste Management Rules 2016 (amendment in 2018), the Bio-Medical Waste Management Rules 2016 and the Solid Waste Management Rules 2016. These rules designate municipal authorities as the legal entity to manage waste in their jurisdictions. Municipal authorities take responsibility for implementing these rules and developing infrastructure for collection, storage, segregation, transportation, processing and disposal of municipal solid waste (MSW) (Kumar, et al., 2017). According to the Indian Constitution, the responsibility for solid waste management is under the state government and the urban local bodies (ULBs). Beside that, the informal sector also plays a major role in waste management: it collects and segregates wastes, selling recyclables, which results in less waste reaching landfills (Lahiry, 2017a). With mission oriented policies such as the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), the Swachh Bharat (Clean India) Mission to end open defecation and improve solid waste management, Ujwal DISCOM Assurance Yojana (UDAY) etc in combination with government initiatives like Make in India, Digital India, Start-up India campaigns which aim to enhance competitiveness and create more jobs, India is poised for growth and it is important to disseminate information on sustainability to all stakeholders. MSMEs utilizing Lean Management cluster Scheme (LMCS), Zero-effect- zero-defect (ZED) scheme and schemes for Energy efficiency provide a comprehensive framework to attain sustainability using the Circular Economy approach (i.e. Make -Use- Return).

Historically, India's economic growth has had a positive correlation with its resource requirements. During 1985-2015, India's real GDP witnessed a growth rate of ~6%, while its resource consumption during the same period increased at a compound annual growth rate of ~4%. The Government of India has established the Indian Resource Panel (InRP), an advisory body under the MoEFCC to assess resource-related issues India is facing and advise the government on a comprehensive strategy for resource efficiency. In 2017, NITI Aayog launched a paper on this initiative and strongly advocated the need for an enabling policy framework to mainstream resource efficiency across sectors.

As a signatory to the 2030 Agenda for Sustainable Development, India is committed to participate in the international review of its progress towards achieving the Sustainable Development Goals (SDGs) on a regular basis.

[https://www.niti.gov.in/sites/default/files/SDG-India-Index-2.0\\_27-Dec.pdf](https://www.niti.gov.in/sites/default/files/SDG-India-Index-2.0_27-Dec.pdf)

### **Existing initiatives (incl. pilot action) and synergies**

Same as for India as a whole, air pollution and lack of infrastructure for active mobility are major issues in Kochi. To strengthen the city's capacity, Urban Pathways has invited Kochi to participate in several international fora, training and peer-to-peer learning on sustainable urban mobility. To join forces, UP has sought the collaboration with other similar active projects in the city: with GIZ SMART-SUT project on electric 3-wheelers as well as with a TUMI project named "Reimagining Fort Kochi together" with WRI India on promoting active mobility. As waste management is also an important sector in Kochi, several discussions and activities related to this sector have been planned. Kochi has also participated in several webinars on waste management - showcasing the innovative activities already happening in Kochi and also to learn from other cities.

### Electric 3-Wheelers (E-autorickshaw)



The Urban Pathways project is engaged with Kochi Municipal Corporation (KMC) and Centre for Heritage and Environment Development (C-HED) in introducing 100 electric autorickshaws in the city to enhance last mile connectivity, together with the GIZ funded SMART-SUT project. The key agency for the project implementation is KMC in close collaboration with Cochin Smart Mission Limited (CSML) and Kochi Metro Rail Limited (KMRL). The project aims to contribute to zero street-level emissions of air pollutants (cleaner air), CO2 emission savings of 30-50% compared to diesel 3-wheelers on a life-cycle basis and also to a green economy (generate jobs and augment income for drivers by switching from diesel to e-autorickshaw).

The project planning and the selection of appropriate e-rickshaw as well as parking and charging area have been finalised. The engagement of the relevant stakeholders (public organisations including municipality, local industry, auto society and drivers) supported the development of an appropriate business model. This pilot project has a huge potential to be scaled up in various locations in the city. The phase wise scale-up plan is also identified in the project and the city is proceeding accordingly. The deployment of e-three wheelers in the city is at the final stage, despite some foreseen delay due to the COVID-19 pandemic. As e-autorickshaws are quite new in the city, the project focuses on training auto drivers too.



On 15<sup>th</sup> November 2022, the pilot was launched with distribution of 30 auto rickshaws to the members of Ernakulam District Auto-Rickshaw Drivers' Co-Operative Society. The GIZ share in the cost of each auto of INR 2,00,000 (approx.) is INR 50,000 while the rest of the financing was done by banks as a loan to the society with a Kerala government guarantee. The rickshaws make use of battery swapping which negates the necessity of charging points. The battery swapping service is currently being provided by Sun Mobility which is a private company.

**Air quality monitoring & active mobility:** To promote active mobility, Urban Pathways has collaborated with WRI India to support Tactical Urbanism activities in the city by conducting a webinar series in Feb 2020. The UP team has also provided an air quality monitoring device 'Smart Citizen Kit' to measure the impact of such activities and raise awareness.

The Urban Pathways team has also conceptualized and discussed an **EcoZone pilot in Kadavanthra neighbourhood**, Kochi. Kadavanthra is one of the fastest growing areas of Kochi. It is a commercial centre and is close to the city's biggest railway station 'Ernakulam Junction'. The traffic demand is high in the area and the last mile connectivity is weak. In cooperation with KMC, Urban Pathways proposed to include promoting active mobility, such as bike lanes and prioritising public space for pedestrians. Tactical Urbanism events are planned to be carried out. The pilot will also raise awareness on the zero waste concept. For example: Training programmes for green cadets (selected groups) on supporting the community zero waste. This will also support green recovery locally after the COVID-19 pandemic.

# POLICY RECOMMENDATIONS

## NATIONAL LEVEL

### **Policy recommendations**

The low carbon urban plans and policies set forth by national, state, and local governments in India support the GHG emission reductions as well as resource management. However, the proper implementation of the policies with integrated approach and relevant stakeholders' engagement are required. Based on the insights generated under the Urban Pathways work in India, some recommendations for the national and state level authorities to accelerate low carbon developments at the urban level are presented below.

### **National Level Interventions**

#### **Urban Governance and Decentralisation**

- Ensure adherence to the Schedule-XII of the Indian constitution in states which defines the powers, authority, and responsibilities of Municipalities in the form of 18 functions. Currently most Municipal laws across states are not in tune with the 74th amendment of the constitution and most cities neither plan nor implement large scale infrastructure without national and state government reliance. Most state governments overpower municipal decision making specifically in terms of plans, taxation, and manpower. There is a need to empower municipal governments in a true sense.
- Launching of an integrated reform linked urban mission targeted towards low carbon infrastructure development, with access to climate finance and with a component of targeted capacity building of the political and the executive cadres at the state and the municipal level. The current missions are quite fragmented and do not necessarily align to a low-carbon urban development vision. The national government may take steps to democratise Smart City Special Purpose Vehicles (SPVs) whose plans currently do not reflect the political will of the people.

## Sustainable mobility

- **Strategize investment in NMT infrastructure by the cities:** A large share of carbon emissions from personalised transport including paratransit happens because Indian cities fare poorly on walkability standards. As 51.6 percent of India's electricity production is dependent on coal and lignite, simply switching to battery operated vehicles for personal or public use is just going to concentrate emissions elsewhere. Meanwhile, it would be of value for most municipalities in India to retain walking and cycling shares in the total modal share which is currently in the state of decline. A large part of EV intervention rests on the idea of lesser emissions, but there is very less data available on the life cycle emissions of electric vehicles including the complexities of battery production and recycling.
- **Comprehensive data collection to improve public transit system:** A public transit system that is accessible and affordable could provide an impetus for more people to reduce the reliance on private vehicles. This would also include NMT infrastructure such as adequate footpaths and bicycle paths, to ensure usability. The national level can support ULBs to improve public transit systems through the provision of data. For instance, understanding the trend in public transit ridership over time as well as commuting times, could inform spatial interventions such as extending or rerouting of transit routes to cover more people, and higher density transit-oriented development.
- **Develop a strategy for electrification of transport:** The Indian national level needs to create a long-term roadmap for the transition of the automotive sector towards Evs to guide and support implementation at the local level. This roadmap needs to include measures to develop the required technical expertise, to electrify public transport and shared systems, to set up charging infrastructure with reliable power supply, adequate grid infrastructure and viable business models and to encourage battery manufacturing industries as well as battery end-of-(first)live management. The EV policy implementation also required inter-departmental coordination to create concrete action plans (Wri India, nd.). Although it would also require synergies with building byelaws as well. The state/

municipal governments will have to mandate minimum standards of charging points in new housing and commercial developments, including public infrastructure like bus depots and parking.

## **Waste management / Circular Economy**

- **Support the implementation of modern practices:** Sustainable development requires that Indian cities approach waste management in a comprehensive manner with modern practices starting from household level segregation and collection, recycling, and processing to treatment of hazardous waste and sanitary landfills, while integrating ICT monitoring systems. There are many examples of Indian cities that have already made remarkable achievements in these areas, while many others are lagging behind. Although the implementation is the responsibility of the ULBs, the national level can support through sharing of good-practices, facilitation of city-to-city partnerships within India and providing support in the mobilization of resources.
- **Initiate the transition towards a Circular Economy and establish financing mechanisms:** The transition from a linear to a circular economy requires a joint effort by stakeholders from all sectors. National policy makers can support the transition by promoting the reduction of waste, reuse of materials and higher resource productivity through the right set of policies, such as Extended Producer Responsibility Schemes, bans of certain products or defining guidelines for reuse, as well as providing incentives and access to financing.
- **Enforce implementation of Plastic Waste Management Rules 2016:** In February 2020 the Government of India amended the Plastic Waste Management Rules 2016, by inserting a new schedule which deals with EPR for plastic packaging. This is an initiative which marks the adoption of EPR initiatives in India's plastic waste management. It talks about obligation for recycling and targets to increase minimum level of recycling from 30% to 60% for Category I and II (flexible and layered plastic packaging) and 50% to 80% for Category I and IV (Rigid and Packaging) by the year 2027-28. The

need is to force implementation of these guidelines on producers for which appropriate institutional mechanisms will have to be chalked out.

## **Monitoring, Reporting and Verification (MRV) systems on urban GHG**

Monitoring, Reporting and Verification (MRV) systems are useful to estimate emissions and to measure the performance of projects and possible improvements. However, the current MRV framework is not efficient, and governments and ULBs are failing to utilise the potentials of proper MRV. To address this deficiency, three recommendations are presented below.

- **Collection of data at city level:** At present, no single agency is responsible for the MRV system, but rather, it is spread out across different regulators and levels of government. This means that there is no collation of data at city level, where the MRV systems are of particular importance, as urban areas are responsible for 44% of the total GHG emissions. The institutional arrangement of PMUs proposed above can be helpful in the improvement of the MRV systems: the PMUs are recommended to develop their own systems where data is being fed in by various agencies. The collated data can be used by the PMU to track and estimate GHG emissions.
- **Capacity Building and harmonization of collection of data:** For the existing data agencies, there is an urgent need to build capacity and improve harmonisation of data. This could be facilitated by a central body – e.g. the proposed climate change department under MoHUA, as described above. The department could contribute in developing harmonised data collection and reporting formats that are similar across the country and in line with India's NDC. Coordination between stakeholders on multiple levels should be applied to ensure transparent and structured reporting. Also, the identification of an agency with these responsibilities is a first step to create a National Inventory Management System, which India has committed to in its NDC.

# STATE GOVERNMENT LEVEL INTERVENTIONS

## Urban Planning and Governance

- Indian cities will require a timely intervention in terms of transferring the “urban planning” function directly to the city governments by their respective state governments and aligning city budgets with the urban masterplans. Currently most city masterplans/ development plans are either made by state level organizations or consultants without large scale public consultations or understanding of the context.
- Amending municipal laws which overpower municipal governments through a need of approving every decision at the state government level. Most municipal governments in India do not have powers to raise tax rates or introduce new taxes. Apart from it all regulatory decisions they make also requires consent from the houses of legislature. This makes most cities in India (except a few states) entirely dependent on state governments for funds and functions. From the perspective of power, it is in the favour of state governments to run a system which creates extreme financial dependence, but this greatly affects the capacities of the municipal governments.
- Transfer of all 18 functions as indicated in the Schedule-12 of the Indian Constitution to municipalities without fail. This will make municipal governments relevant in the life of urban citizenry.
- Creating systems for data centric urban planning through standardising data keeping standards across the states. The National Urban Digital Mission by the Government of India is a step in right direction towards National Meta Data Standards. The state governments must ensure the compliance to create India level comparable matrices of various urban governance indicators.

## Municipal Solid Waste (MSW) Management

- Standardising minimum per capita solid waste management infrastructure guidelines across bigger and smaller municipalities and ensuring adherence to CPHEEO manuals on solid waste.
- Ensuring standard numbers of MSW staff as per city sizes and reforming the collection system for user charges.

# CONCLUSIONS

Cities have tremendous work to do - and a huge potential to initiate transformations at the urban scale, helping to reduce emissions, securing better living conditions, etc. Most often cities are not paid to do this job - the resources they get are just enough to do the daily business. When investments in infrastructure are needed or whole system changes (urban mobility system, waste management, etc.) are called for, this is often where cities simply lack the resources. Pilot action can help to showcase the feasibility of urban transformations and low-carbon actions. But for a real change, the national level policy frameworks and funding sources become key elements.

This is why these policy recommendations developed by the Urban Pathways team start from the city perspective: how can national governments support low-carbon urban action? Based on the experiences from the implementation of the pilot projects in the partner cities, and also the insights the UP team gained through the co-development of project concepts, training materials and webinars, for each of the original partner countries recommendations were formulated for the mobility sector, as well as for waste management - and also a more general framework for bottom-up, scalable projects.

This is why the national governments play an important role: for establishing a framework in which cities have sufficient resources to fulfil their jobs. Examples are EPR, mandatory ISWM plans for allocation of funds, etc.



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